

## Abstract

The present invention provides a method for improving thermostability of proteins, proteins having improved thermostability, nucleic acids encoding the proteins and host cells producing the proteins improved in thermostability.

The method for improving thermostability of protein comprises:

- (i) comparing amino acid sequences of proteins derived from two or more species which evolutionarily correspond to each other in a phylogenetic tree;
- (ii) estimating an amino acid sequence of an ancestral protein corresponding to the amino acid sequences compared in step (i),
- (iii) and comparing the amino acid residues in the amino acid sequence in one of the proteins compared in step (i) with amino acid residues at a corresponding position in the ancestral protein estimated in step (ii), and replacing one or more of the amino acid residues different from those of the ancestral protein with the same amino acid residues as those of the ancestral protein.